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Psychiatric morbidity and clinical correlates in substance dependence: A study from a tertiary care center in Sitapur

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ABSTRACT

Background: Dependence syndrome due to psychoactive substance use is a significant public health concern, impacting individuals, families, and society. Aimed to investigate the clinical correlates and psychiatric morbidity among individuals with substance use disorders at a tertiary care center in Sitapur. **Aims and Objectives:** The aim and objective of this study were to evaluate the clinical correlates and psychiatric morbidity in patients with dependence syndrome due to psychoactive substance use at a tertiary care center. **Materials and Methods:** This descriptive cross-sectional study was conducted over 18 months, including 390 patients aged 18–60 years, all diagnosed with dependence syndrome due to psychoactive substance use according to the International Classification of Diseases-10 criteria. Patients visiting psychiatry outpatient department/inpatient department/consultation-liaison psychiatry cases were assessed using semi-structured pro forma and standardized tools, including the alcohol, smoking, and substance involvement screening test. **Results:** The study included 390 patients, predominantly male (94.10%), with a significant portion aged 31–50 years. Most participants were from lower socioeconomic backgrounds, with alcohol, cannabis, and mixed substances being the most used. A high prevalence of psychiatric comorbidities was found, with 60.25% exhibiting mood and anxiety disorders. The severity of psychiatric comorbidities varied across different risk levels. **Conclusions:** The study underscores the need for gender-sensitive prevention strategies, targeted interventions for middle-aged adults, and comprehensive care models addressing both substance use and psychiatric comorbidities. Integrated treatment approaches, public health campaigns, and robust support systems are essential to improve health outcomes.

Key words: Dependence syndrome; Psychoactive substance use; Psychiatric morbidity

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INTRODUCTION

Substance dependence is a significant global health issue, affecting individuals, families, and society.[1] It includes the use of alcohol, tobacco, and illicit drugs such as heroin, cocaine, and cannabis, with prevalence rates varying from 0.4% to 4%.[2] Injection drug use further increases the risk of infectious diseases such as hepatitis B, hepatitis C, and human immunodeficiency virus.[3] In addition, substance use disorders (SUDs) are often linked to psychiatric conditions such as depression, anxiety, and schizophrenia, which complicate treatment outcomes and increase relapse rates.[4]

Tertiary care centers play a crucial role in managing severe substance dependence cases, requiring a multidisciplinary approach. However, limited research in India explores psychiatric comorbidities in substance-dependent individuals.[5] This study aims to assess clinical correlates and

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psychiatric morbidity in these patients, providing insights for improved treatment strategies and support systems. Addressing both addiction and mental health disorders can enhance patient care and overall treatment effectiveness.

Aims and objectives

Aims

- To study the clinical correlates and psychiatric morbidity in dependence syndrome due to psychoactive substance use.

Objectives

1. To study the sociodemographic, clinical profile of patients with dependence syndrome due to psychoactive substance use.
2. To study the nature and extent of psychiatric comorbidity in patients with dependence syndrome due to psychoactive substance use.

MATERIALS AND METHODS

The study was conducted at a tertiary care center in Sitapur as a descriptive cross-sectional study. The study duration was 18 months, which included 12 months for data collection and 6 months for data analysis. The study included patients aged 18–60 years of either sex who visited the psychiatry outpatient department (OPD), inpatient department, or consultation-liaison psychiatry services and were diagnosed with dependence syndrome due to psychoactive substance use according to the International Classification of Diseases-10 (ICD-10) Criteria. Written consent was obtained from all participants.

Exclusion criteria included patients suffering from serious or debilitating medical illnesses requiring intensive medical or surgical management, those with only tobacco use (as a separate thesis on tobacco was being conducted concurrently in the department), patients with organic brain diseases or medical illnesses known to cause psychiatric disorders (such as thyroid disorders, epilepsy, and Cushing's disease), and patients lacking capacity or having cognitive deficits due to conditions such as delirium or alcoholic dementias.

The sample size was calculated using Cochran's formula. The sample size was 384. The data for this study were collected from patients attending the Psychiatry OPD, admitted patients in the psychiatry ward, and consultation liaison referrals from casualty and other departments.

Patients diagnosed with dependence syndrome due to psychoactive substance use according to the ICD-10 criteria were included in the study after meeting the inclusion and exclusion criteria and providing informed consent. Detailed medical and psychiatric histories, including sociodemographic details, were recorded using a semistructured proforma. Data collection and tabulation were carried out using an MS Excel spreadsheet, and all data were analyzed using the Statistical Package for the Social Science (SPSS) software version 26.

The instruments used in this study included a semistructured proforma designed to record sociodemographic variables, medical, and psychiatric histories. The International Classification of Mental and Behavioral Disorders, ICD-10 (Diagnostic Criteria for Research), was employed to provide universally accepted diagnostic criteria tailored for studies on mental and behavioral disorders. The criteria, intentionally narrow, were designed to simplify the process of selecting groups of individuals with similar symptoms and characteristics, thereby enhancing consistency within study groups and improving comparability of results in multicenter and international research. The ICD-10 covers over 300 illnesses and is based on Chapter V(F) of the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems.[6]

In addition, the alcohol, smoking, and substance involvement screening test (ASSIST) was utilized. The ASSIST was developed by an international team of researchers and clinicians on behalf of the World Health Organization as a technical tool for the early detection of health risks and disorders related to substance use. It is intended for use in primary health care, general medical care, and other relevant environments.[7]

Data analysis

Sociodemographic factors of the study sample were tabulated using descriptive statistics in Microsoft Excel Spreadsheet. Descriptive statistics were employed to calculate the frequencies of clinical features and substance-related factors among all psychiatric patients. Associations between two categorical variables were determined by Chi-square test and to determine the variation between three or more independent groups, One Way analysis of variance test was used. The descriptive variable will be represented in mean ± SD or in percentage. The outcome of the study will be analyzed using SPSS software-26 version. A probability value of <0.05 will be considered significant.

RESULTS

Table 1 presents the sociodemographic details of the study sample, which comprised 390 participants, focusing on individuals with dependence syndrome due to psychoactive substance use. The overwhelming majority of the study group was male, whereas females represented a small fraction. Age distribution indicates that most

of the patients fall within the age ranges of 31–40 and 41–50 years, highlighting a significant concentration of cases in the middle-aged demographic.

The data reveal a concentration of participants in the lower socioeconomic segments, with the largest group falling into the "Upper Lower" category, closely followed by the "Lower Middle" SES group, highlighting that a significant majority (84.88%) of the study population belongs to the lower three socioeconomic tiers. Conversely, individuals from the "Upper" and "Upper Middle" SES categories constitute a smaller fraction of the sample.

A slight majority of the participants are employed (55.90%). Conversely, the unemployed segment also represents a significant proportion (44.10%).

Table 2 delineates the distribution of substance use cases among the study participants, alcohol emerges as the most used substance followed by cannabis and mixed substance use. Opioids, sedative hypnotics, and others represent a smaller portion of the cases.

Table 3 classifies participant's substance use risk as mild, moderate, or severe using the ASSIST scale. Most were at moderate risk, followed by mild and severe risk. This highlights the need for targeted interventions across different risk levels.

Table 4 depicts the prevalence of psychiatric comorbidities among the 390 participants. Notably, a significant portion of the sample, 60.25% (n=235) were found to have psychiatric comorbidity. The most common psychiatric comorbidity was mood disorder, followed by anxiety disorder. Psychotic disorder was the least common among the three categories. These findings highlight the prevalence of mood and anxiety disorders as significant psychiatric comorbidities within the study population.

Table 5 and Figure 1 highlight a significant relationship between substance use risk and psychiatric comorbidities. As substance use risk increases, the prevalence of psychiatric disorders also rises. Among individuals with mild risk, 9.23% had a psychiatric comorbidity, whereas in the moderate-risk group, this increased to 29.97%. The trend is most pronounced in the severe-risk category, where 22.05% had a comorbidity. Overall, 60.26% of participants had psychiatric disorders, with a statistically significant P=0.001. These findings emphasize the need for integrated treatment strategies that address both substance use and co-occurring mental health conditions.

Table 1: Describing the sociodemographic details of the patients

Variables	Frequency	Percentage
Gender		
Male	367	94.10
Female	23	5.90
Age group		
18–30	90	23.08
31–40	120	30.77
41–50	110	28.21
51–60	70	17.95
Socioeconomic status		
Upper	17	4.36
Upper middle	42	10.77
Lower middle	126	32.31
Upper lower	140	35.90
Lower	65	16.67
Employment		
Employed	218	55.90
Unemployed	172	44.10

Table 2: Describing the study groups as prevalence and patterns of substance use

Substance use	Frequency	Percentage
Alcohol	157	40.26
Cannabis	78	20.00
Mixed	70	17.95
Opioid	40	10.26
Sedative hypnotics	37	9.49
Others	8	2.05
Total	390	100.0

Table 3: Describing the study groups as per risk of substance

Risk of substance	Frequency	Percentage
Mild	134	34.36
Moderate	167	42.82
Severe	89	22.82
Total	390	100.0

Table 4: Describing the study groups as per psychiatry comorbidity

Psychiatry comorbidity	Frequency	Percentage
Mood disorder	114	48.5
Anxiety disorder	75	31.9
Psychotic disorder	46	19.6
Total	235	100

Table 5: Describing the study groups as per comparison of risk of substance with presence of psychiatric comorbidities

Variables	Psychiatry comorbidity		Total	P-value
	Absent	Present		
Risk of substance				
Mild	98 (25.13)	36 (9.23)	134 (34.36)	0.001
Moderate	54 (13.85)	113 (29.97)	167 (42.82)	
Severe	3 (0.77)	86 (22.05)	89 (22.82)	
	155 (39.74)	235 (60.26)	390 (100.0)	

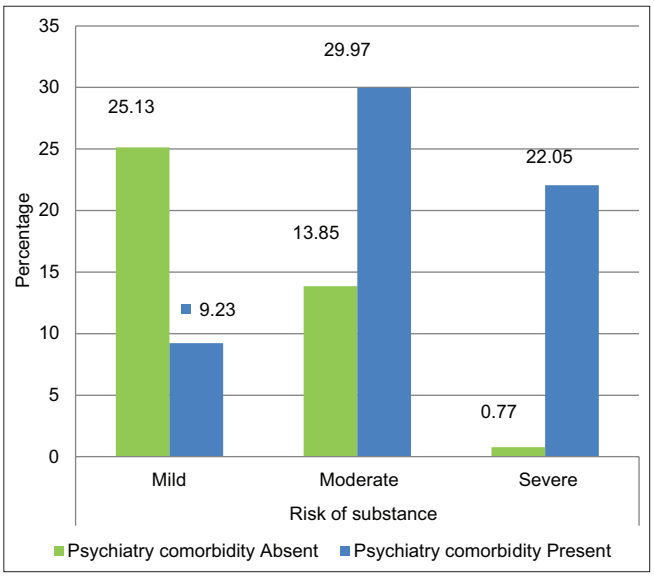

Figure 1: Describing the study groups as per comparison of risk of substance with presence of psychiatric comorbidities

DISCUSSION

This study examines clinical correlates and psychiatric morbidity in individuals with dependence syndrome due to psychoactive substance use at a tertiary care center in Sitapur. Conducted over 18 months, it analyzed sociodemographic and clinical profiles, focusing on psychiatric comorbidities.

Gender differences in substance use

This study highlights a significant gender disparity, with males comprising 94.10% of cases. Research suggests that cultural norms, social acceptability, and biological predispositions contribute to the higher prevalence of substance use among men (Ray et al., 2004;[6] Murthy et al., 2010[7]). However, recent trends indicate a rising prevalence among women, especially in urban areas, due to changing lifestyles and increased stress (Kumar et al., 2017;[8] Venkatesh et al., 2019[9]). These findings emphasize the need for gender-specific intervention programs addressing both the historically higher male prevalence and the emerging pattern among women.

Age trends in substance dependence

Substance dependence was most prevalent among individuals aged 31–50 years, aligning with research linking middle age to high-stress environments and increased responsibilities (Singh et al., 2014;[10] Gururaj et al., 2016[11]). Although middle-aged adults remain the most affected, studies suggest an increase in substance use among younger populations, influenced by peer pressure and urbanization (Johnson et al., 2013;[12] Venkatesh et al., 2019[9]). This calls for targeted interventions that address substance use prevention in younger individuals while providing effective treatment for middle-aged users.

Socioeconomic factors and substance use

Findings indicate a higher prevalence of substance dependence among individuals from lower socioeconomic backgrounds, consistent with studies linking financial distress, lack of education, and limited healthcare access to increased substance use (Galea et al., 2004;[13] Saxena et al., 2010[14]). However, research also highlights substance use among higher-income groups, often in recreational settings (Degenhardt et al., 2008;[15] Kumar et al., 2015[16]). These insights emphasize the necessity of socioeconomic-inclusive policies addressing substance use across all financial backgrounds.

Employment and substance dependence

Employment status was not a protective factor, as 55.90% of participants were employed, whereas 44.10% were unemployed. Research indicates that work-related stress can lead to substance use, whereas unemployment fosters financial stress and social isolation, increasing vulnerability (Stoltenberg et al., 2007;[17] Mattoo et al., 2009[18]). This suggests the need for workplace-based awareness programs and targeted support for unemployed individuals.

Patterns and prevalence of substance use

Alcohol was the most used substance (40.26%), followed by cannabis (20.00%), mixed substance use (17.95%), opioids (10.26%), and sedative-hypnotics (9.49%). These trends align with national data indicating alcohol as the leading substance of abuse (Gururaj et al., 2016[11]). Cannabis remains the second-most common due to cultural acceptance (Ray et al., 2004[6]). The rise in polysubstance use complicates treatment approaches (Degenhardt et al., 2007[15]). While opioid use was lower in this study, it is more prevalent in northern India (Ambekar et al., 2019[19]). The misuse of sedative-hypnotics is increasing due to easy accessibility and low awareness of addiction risks (Tripathi et al., 2014[20]). These trends highlight the need for targeted prevention efforts, particularly for poly-drug use and prescription drug abuse.

Risk levels of substance use

The ASSIST scale categorized participants as mild-risk (34.36%), moderate-risk (42.82%), and severe-risk (22.82%). Tailored interventions are essential, with mild-risk individuals benefiting from preventive education and high-risk cases requiring intensive treatment Barriers such as stigma, financial limitations, and restricted healthcare access hinder treatment for severe-risk individuals (Ray et al., 2004[6]; Murthy et al., 2010[7]). High-risk users often experience psychiatric comorbidities, necessitating integrated addiction and mental health services (Degenhardt et al., 2007;[15] Ambekar et al., 2019[19]). A structured intervention strategy is crucial for effectively managing substance use across varying risk levels.

Prevalence of psychiatric comorbidity

Studies indicate that 60.25% of individuals with dependence syndrome also experience psychiatric comorbidities, emphasizing the strong association between SUDs and mental health conditions. Research by Kessler et al.[21] and Ray et al.[22] supports this, highlighting high rates of depression, anxiety, and personality disorders among substance users. Ambekar et al.,[19] also stress the importance of integrated care to manage both conditions effectively.

In contrast, Chopra et al.[23] and Singh et al.[24] reported lower psychiatric comorbidity rates, possibly due to variations in study populations, healthcare access, and socioeconomic factors. These differences suggest that interventions should be tailored to specific population needs.

Relationship between substance use risk and psychiatric comorbidities

The presence of psychiatric disorders increases with the severity of substance use risk. Among individuals at mild risk, 9.23% had at least one psychiatric disorder, whereas in the severe risk group, this rose to 22.05%, with a statistically significant association (P=0.001).

Kessler et al.[21] describe a bidirectional link, where substance use exacerbates psychiatric symptoms, whereas mental disorders increase vulnerability to substance use. Murthy et al.[7] found mood and anxiety disorders to be particularly common in substance-dependent individuals in India. However, Chopra et al.[23] and Singh et al.[24] observed lower comorbidity rates, suggesting that diagnostic differences and socioeconomic factors influence these findings. These results reinforce the need for integrated treatment approaches addressing both substance use and co-occurring psychiatric conditions.

Limitations of the study

The study has several limitations. Firstly, patients with tobacco use were excluded to avoid sample disparity, as a separate thesis on tobacco use is being conducted concurrently. This exclusion may affect the comprehensiveness of the findings. Secondly, the cross-sectional design of the study limits the ability to establish causal relationships between substance use and its correlates, as it provides only a snapshot of the phenomenon rather than a longitudinal perspective. Additionally, being a single-center study conducted at a tertiary care center, the findings may not be generalizable to other settings or populations. Lastly, patients with serious medical illnesses, organic brain diseases, or cognitive deficits were excluded, which may limit the understanding of substance use in these vulnerable populations.

CONCLUSION

This study highlights the complex interplay between sociodemographic factors, psychiatric comorbidities, and substance dependence. Males predominantly comprise the affected population, though rising trends among women necessitate gender-specific interventions. Substance use is most prevalent in middle-aged individuals, with increasing cases among younger populations, emphasizing the need for early preventive measures. Socioeconomic disparities and employment status influence substance dependence, suggesting the necessity of inclusive policies and workplace interventions. Alcohol remains the most commonly used substance, followed by cannabis and poly-substance use, underscoring the need for targeted prevention strategies. The severity of substance use correlates with psychiatric comorbidities, reinforcing the importance of integrated mental health and addiction treatment. Addressing these multifaceted issues through structured, population-specific interventions is crucial for effective management and prevention of substance dependence.

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YR- Concept, design, clinical protocol, definition of intellectual content, literature survey, prepared first draft of manuscript, implementation of study protocol, data collection, preparation of figures, statistical analysis, data analysis, manuscript preparation and submission of article; **AP-** Concept, design, clinical protocol, statistical analysis, data analysis, manuscript preparation, editing, and manuscript revision; **MS-** Design of study, statistical analysis and interpretation; **VY-** Review manuscript; **RS-** Review manuscript

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